Amendment to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Claims 1-62. (Cancelled).

Claim 63. (Currently Amended) A process for the production of cis-1,4-polybutadiene having a gel content below 250 ppm, comprising polymerizing 1,3-butadiene in the presence of a catalyst and a polymerization diluent, wherein the polymerization diluent comprises an organic solvent and water particles having a median particle size less than or equal to about 10 μm.

~~The process of Claim 33,~~ wherein the water is mixed with the polymerization diluent by sonic treatment.

Claim 64. (Cancelled).

Claim 65. (New) The process of Claim 63, wherein the water present in said polymerization diluent is present as particles having a median particle size in the range of from about 0.5 μm to about 8 μm.

Claim 66. (New) The process of Claim 63, wherein the water present in said polymerization diluent is present as particles having a median particle size in the range of from about 0.5 μm to about 6 μm.

Claim 67. (New) The process of Claim 63, wherein the water present in said polymerization diluent is present as particles having a median particle size in the range of from about 1 μm to about 5 μm.

Claim 68. (New) The process of Claim 63, wherein the organic solvent of said polymerization diluent is selected from the group consisting of an aliphatic compound, an aromatic compound and mixtures thereof.

Claim 69. (New) The process of Claim 68, wherein the organic solvent is selected from the group consisting of a saturated hydrocarbon, an unsaturated hydrocarbon and mixtures thereof.

Claim 70. (New) The process of Claim 69, wherein the organic solvent is selected from the group consisting of a C_4-C_{10} aliphatic hydrocarbon, a C_5-C_{10} cyclic aliphatic hydrocarbon, a C_6-C_9 aromatic hydrocarbon, a C_2-C_{10} monoolefinic hydrocarbon and mixtures thereof.

Claim 71. (New) The process of Claim 70, wherein the C_4-C_{10} aliphatic hydrocarbon is selected from the group consisting of butane, pentane, hexane, heptane, octane and mixtures thereof.

Claim 72. (New) The process of Claim 70, wherein the C_2-C_{10} monoolefinic hydrocarbon is selected from the group consisting of butene-1, pentene-1, hexene-1 and mixtures thereof.

Claim 73. (New) The process of Claim 70, wherein the C_5-C_{10} cyclic aliphatic hydrocarbon is selected from the group consisting of unsubstituted cycloalkanes, methyl substituted cycloalkanes, ethyl substituted cycloalkanes and mixtures thereof.

Claim 74. (New) The process of Claim 73, wherein the C_5-C_{10} cyclic aliphatic hydrocarbon is selected from the group consisting of cyclopentane, cyclohexane, cyclooctane and mixtures thereof.

Claim 75. (New) The process of Claim 70, wherein the C_6-C_9 aromatic hydrocarbon is selected from the group consisting of benzene, toluene, xylene and mixtures thereof.

Claim 76. (New) The process of Claim 63, wherein the organic solvent of said polymerization diluent comprises a mixture of cyclohexane and butene-1.

Claim 77. (New) The process of Claim 63, wherein said polymerization diluent additionally comprises a polymerization modifier selected from the group consisting of C_2-C_{18} C_3-C_{18}non-conjugated dienes, C_6-C_{12} cyclic dienes and mixtures thereof.

Claim 78. (New) The process of Claim 77, wherein the polymerization modifier is selected from the group consisting of 1,2-butadiene, 1,3-cyclooctadiene, 1,5-cyclooctadiene and mixtures thereof.

Claim 79. (New) The process of Claim 63, wherein said catalyst comprises a substantially anhydrous cobalt salt and an organo-aluminium halide compound.

Claim 80. (New) The process of Claim 79, wherein the substantially anhydrous cobalt salt comprises a compound corresponding to the formula:

$$CoA_m$$

wherein:

A: represents a monovalent anion or a divalent anion;

and

m: represents 1 or 2.

Claim 81. (New) The process of Claim 80, wherein the anion is derived from a C_6-C_{12} organic acid.

Claim 82. (New) The process of Claim 80, wherein the anion is selected from the group consisting of an acetylacetonate, an acetate, a hexanoate, an octoate, an oxalate, a tartrate, a stearate, a sorbate, an adipate and a naphthenate.

Claim 83. (New) The process of Claim 79, wherein the substantially anhydrous cobalt salt comprises cobalt octoate.

Claim 84. (New) The process of Claim 79, wherein the organo-aluminium aluminum halide compound comprises a compound corresponding to the general formula:

$$R_pAlX_q$$

wherein:
R: represents a C_2-C_{12} alkyl group;
X: represents a halogen;
and
the sum of p + q equals 3.

Claim 85. (New) The process of Claim 79, wherein said organo-aluminium halide compound is selected from the group consisting of a dialkyl aluminum chloride compound, an alkyl aluminum sesquichloride compound and mixtures thereof.

Claim 86. (New) The process of Claim 79, wherein the organo-aluminum halide compound is selected from:

(I)

(a) an alkyl aluminum chloride selected from the group consisting of diethyl aluminum chloride and ethyl aluminum sesquichloride,

or a mixture of :

(a) and

(b) an organo aluminum compound corresponding to the formula:

$$R_3Al$$

wherein:

R: represents a C_8-C_{12} alkyl group;

and

(II) an alkyl aluminum chloride wherein the alkyl group has from 8 to 12 carbon atoms.

Claim 87. (New) The process of Claim 79, wherein the organo aluminum halide comprises a mixture of:

(a) an alkyl aluminum chloride selected from the group consisting of diethyl aluminum chloride and ethyl aluminum sesquichloride,

and

(b) an organo aluminum compound corresponding to the formula:

R_3Al

wherein:

R: represents a C_8-C_{12} alkyl group.

Claim 88. (New) The process of Claim 86, wherein the organo aluminum compound corresponding to the formula R_3Al is present in an amount of from 0 to 1% by weight of the mixture.

Claim 89. (New) The process of Claim 86, wherein the organo aluminum compound corresponding to the formula R_3Al comprises tri-octyl aluminum.

Claim 90. (New) The process of Claim 79, wherein the substantially anhydrous cobalt salt comprises cobalt octoate and the organo-aluminum halide compound comprises a mixture of diethyl aluminum chloride and tri-octyl aluminum.

Claim 91. (New) The process of Claim 90, wherein the molar ratio of cobalt octoate to the total of diethyl aluminum chloride plus tri-octyl aluminum is from about 1:15 to about 1:30.

Claim 92. (New) The process of Claim 90, wherein the molar ratio of chlorine in diethyl aluminum chloride to the total aluminum in diethyl aluminium plus tri-octyl aluminum is from about 0.7:1 to about 0.95:1.

Claim 93. (New) The process of Claim 63, wherein the polymerization temperature is in the range of from about 5°C to about 40°C. --